

Listing of Claims:

Claims 1-29 (Canceled).

30. (Currently Amended) An ophthalmologic instrument for measuring aberrations of a human eye, comprising:

a point light source which is projected onto a retina of the eye to create a virtual light source thereon, wherein radiation
5 of the virtual light source is scattered by the retina and then passes through optical systems of the eye and becomes phase-modulated, and wherein the modulation corresponds to a total of optical aberrations of the eye;

a measuring system for measuring a shape of a wavefront of
10 the radiation leaving the eye, and outputting an output signal to a control system of the instrument;

a system for compensating for said aberrations, located between the eye and the measuring system and transmitting the radiation leaving the eye, wherein said system comprises a
15 refraction compensator that controls focusing of the radiation scattered by the retina and an astigmatism compensator located at an image plane of a pupil of the eye, wherein the astigmatism compensator comprises: (i) one of two cylindrical lenses of opposite signs and two toric lenses of opposite signs, wherein
20 said lenses are independently rotatable around an optical axis of

the compensator, and (ii) a system for setting initial turning angles of said lenses; and

25 a projector of test patterns, which, jointly with said refraction compensator and astigmatism compensator, projects an image of a test pattern onto the retina.

31. (Previously Presented) The instrument of claim 30, wherein the refraction compensator comprises a movable prism and a dichroic mirror which are placed between two lenses, and wherein said dichroic mirror is operable as a beam-splitter to
5 align the instrument.

Claim 32 (Canceled).

33. (Previously Presented) The instrument of claim 30, further comprising a built-in automatic calibration system which uses an additional virtual light source as a test element to measure current positions of the compensators.

34. (Previously Presented) The instrument of claim 30, further comprising an alignment system which adjusts a proper distance between the eye and the instrument.

35. (Currently Amended) An ophthalmologic instrument for measuring aberrations of a human eye, comprising:

a point light source which is projected onto a retina of the eye to create a virtual light source thereon, wherein radiation
5 of the virtual light source is scattered by the retina and then passes through optical systems of the eye and becomes phase-modulated, and wherein the modulation corresponds to a total of optical aberrations of the eye;

a measuring system for measuring a shape of a wavefront of
10 the radiation leaving the eye, and outputting an output signal to a control system of the instrument;

a system for compensating for said aberrations, located between the eye and the measuring system and transmitting the radiation leaving the eye, wherein said system comprises a
15 refraction compensator that controls focusing of the radiation scattered by the retina, an astigmatism compensator located at an image plane of a pupil of the eye, and a compensator of high-order aberrations, wherein the astigmatism compensator comprises: (i) one of two cylindrical lenses of opposite signs and two toric lenses of opposite signs, wherein said lenses are independently rotatable around an optical axis of the compensator, and (ii) a system for setting initial turning angles of said lenses; and
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25 a projector of test patterns, which, jointly with said
refraction compensator, astigmatism compensator and compensator
of high-order aberrations, projects an image of a test pattern
onto the retina.

36. (Previously Presented) The instrument of claim 35,
wherein the refraction compensator comprises a movable prism and
a dichroic mirror which are placed between two lenses, and
wherein said dichroic mirror is operable as a beam-splitter to
5 align the instrument.

Claim 37 (Canceled).

38. (Previously Presented) The instrument of claim 35,
further comprising a built-in automatic calibration system which
uses an additional virtual light source as a test element to
measure current positions of the compensators.

39. (Previously Presented) The instrument of claim 35,
further comprising an alignment system which adjusts a proper
distance between the eye and the instrument.

Claims 40-43 (Canceled).